Operating Instructions

English

Grundig SAT Systems

Control and Remote Control Software

PSW 160

V.6

for head-end stations of the Basic-Line

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2 General information

2.1 Distribution

The software can be downloaded from "***www.gss.de***".

2.2 Meaning of the used symbols

Important note

—> General note

• Performing works

—> The shown illustrations of menus are partly dependent on the cassettes resp. its software versions as well as the used operating system and its settings.
Variations are possible.

2.3 Description

The PSW 160 allows to configure, record and store the settings of head-end stations / plants of the basic line.

—> **All settings (with exception of the "direct control via the virtual control unit") first will be done in the PSW 160 software (random access memory – RAM of PC) and must be finally transferred to the plant ("send data")**!

All current modules and the head-end station of the basic line can be controlled with a PC directly (local) via the serial COM port interface of the head-end station, or remote controlled via the Ethernet by using a corresponding management system.
Without management system always one head-end station can be configured.
For a local configuration of the head-end station connect the PC to the control unit via a RS-232 cable. For PCs with USB connector (without serial interface) we recommend the DeLOCK "USB 2.0 to serial adapter" (product-No. 61460).

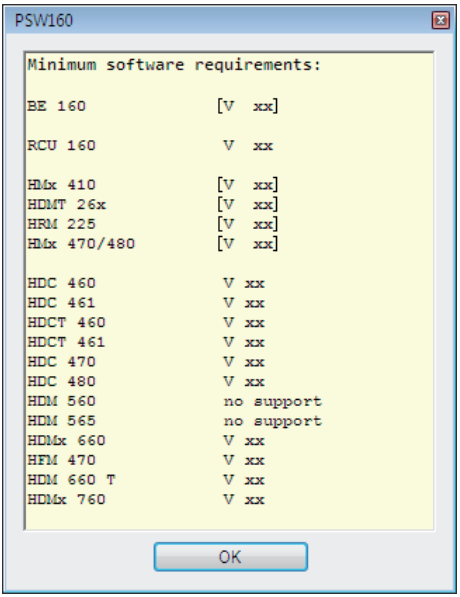
—> Using an UMTS router, also a connection PC ➡ Ethernet ➡ Mobile telephony ➡ Management system is possible.

Software updates:
Always keep the software versions of the head-end stations and the PSW 160 up-to-date in order to be able to configure also the newest products. (see page 8 for the software versions needed at least).

—> The most recent version can be downloaded from "www.gss.de". If you do not have Internet access, we will send you a DVD on request.

2.4 At least needed software versions

A current table of supported modules and their software versions needed at least is shown during the installation in window "information" (page 11) and can also be called up via menu **Help > Minimum requirements**.



—> Versions numbers in squared brackets e.g. [V 10] indicate that the software of the module is included in the software of the control unit.

2.5 PC SYSTEM REQUIREMENTS

System requirements for the PSW 160 software:

– Microsoft .NET Framework 3.5 (can be downloaded from Microsoft free of charge).

> —> During installation of PSW160 it is checked whether .NET F 3.5 is installed. If not, the download from Microsoft will be provided. If Microsoft .NET Framework 3.5 is not installed, it is not possible to install the PSW160 software!

– Supported Operating Systems: Windows Server 2003, Windows Server 2008, Windows Vista, Windows XP, Windows 7.
– Processor: 400 MHz Pentium processor or equivalent (minimum); 1GHz Pentium processor or equivalent (recommended).
– RAM: 96 MB (minimum); 256 MB (recommended).
– Hard Disk: Up to 500 MB of available space may be required.
– Display: 800 x 600, 256 colours (minimum); 1024 x 768 high colour, 32-bit (recommended).
– LAN interface (RJ-45 socket, for remote control via Ethernet).
– Serial interface (RS-232 Sub D, for in situ operation).

> —> For PCs with USB connector (without serial interface), we recommend the DeLOCK "USB 2.0 to Serial adapter" (Product No. 61460).

– Network-/Internet access for downloads and for remote control via Ethernet.

3 Installing the software on a PC

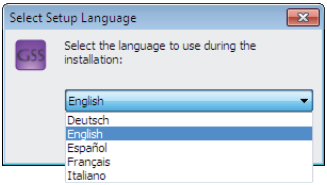
3.1 Key Code (Activation Code) for the software

A key code is required for the activation of the PSW 160 software. This can be obtained from your regional authorised distributor.

3.2 Installing the software

The PSW 160 software can be downloaded from "www.gss.de".
If you do not have Internet access, we will send you a DVD on request.

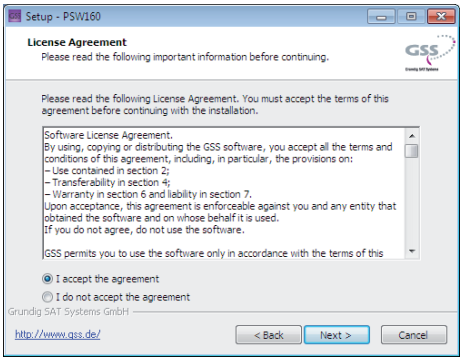
- Start the "SETUP_PSW160_v.X.exe" programme by a double click.



- Select the desired language and click the **OK** button to confirm.

Setup - PSW160
Welcome to the PSW160 Setup Wizard
This will install PSW160 v.0_a LABOR on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
http://www.gss.de/
Next >
Cancel

- When the "Setup-PSW160" menu appears, click the "**Next >**" button.


Setup - PSW160
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
Software License Agreement.
By using, copying or distributing the GSS software, you accept all the terms and conditions of this agreement, including, in particular, the provisions on:
– Use contained in section 2;
– Transferability in section 4;
– Warranty in section 6 and liability in section 7.
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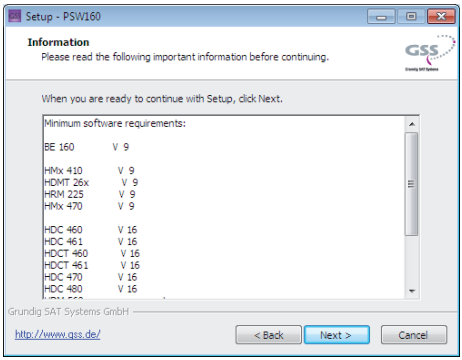
If you do not agree, do not use the software.
GSS permits you to use the software only in accordance with the terms of this
I accept the agreement
I do not accept the agreement
Grundig SAT Systems GmbH
http://www.gss.de/
< Back
Next >
Cancel

- Read the license agreement.
- If you accept the license agreement select "**I accept the agreement**" and click the "**Next >**" button.

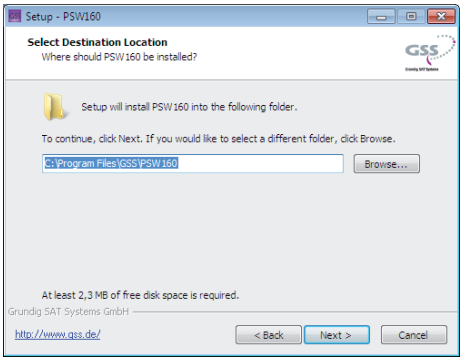
- The appearing table shows the software versions of the modules, from which on they can read out.



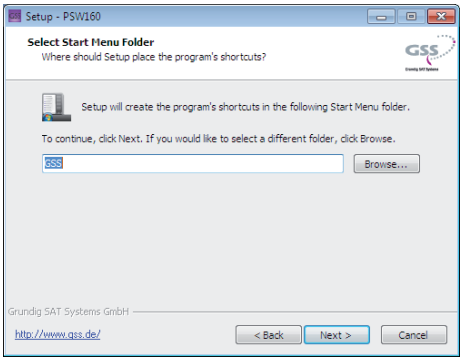
—> Keep the software version of the PSW 160 always up-to-date in order to be able to remote control also the newest products.

—> After installing the PSW 160 software, update the software for the cassettes if necessary.

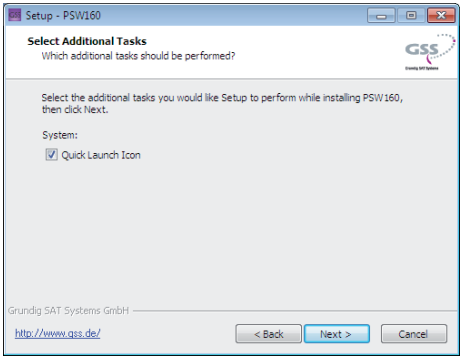
- Click the "**Next >**" button.


Setup - PSW160
Select Destination Location
Where should PSW160 be installed?
Setup will install PSW160 into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\GSS\PSW160
Browse...
At least 2,3 MB of free disk space is required.
Grundig SAT Systems GmbH
http://www.gss.de/
< Back
Next >
Cancel

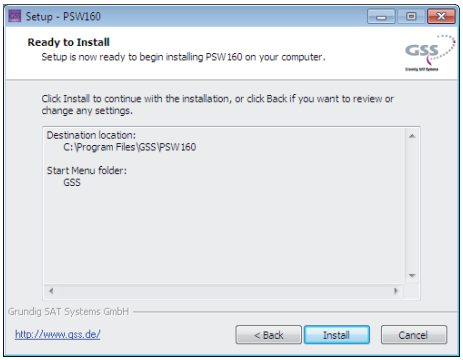
- Specify the directory in which the PSW 160 should be installed (e.g. C:\Program Files\GSS\PSW160) and click the "**Next >**" button.


Setup - PSW160
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
GSS
Browse...
Grundig SAT Systems GmbH
http://www.gss.de/
< Back
Next >
Cancel

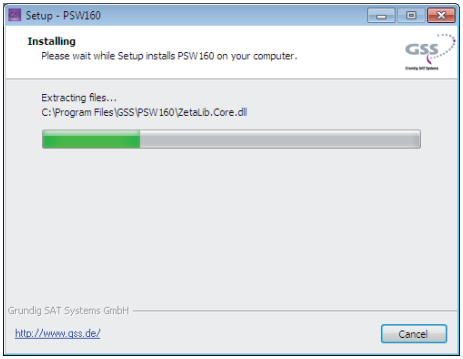
- Enter a name for the shortcut to the programme which will be created in the start menu and click the "**Next >**" button.


Setup - PSW160
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing PSW160, then click Next.
System:
Quick Launch Icon
Grundig SAT Systems GmbH
http://www.gss.de/
< Back
Next >
Cancel

- If you would like to have a "Quick Launch Icon" enter a hook at this check field (dependent on the operating system of the PC) and click the "**Next >**" button.


Setup - PSW160
Ready to Install
Setup is now ready to begin installing PSW160 on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\GSS\PSW160
Start Menu folder:
GSS
Grundig SAT Systems GmbH
http://www.gss.de/
< Back
Install
Cancel

- Click on "**Install**" in order to proceed with the installation of the programme, or on "**Back**" to make corrections or changes.



—> The installation progress is shown.

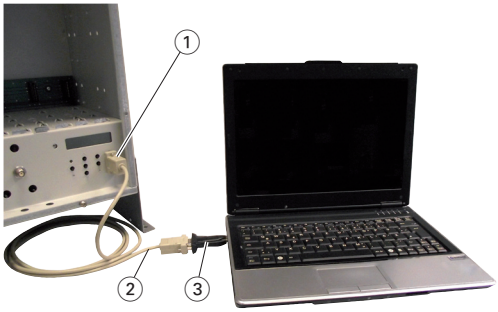
Setup - PSW160
Completing the PSW160 Setup Wizard
Setup has finished installing PSW160 on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch PSW160
http://www.gss.de/
Finish

- Click on "**Finish**", to complete the installation.

4 Basic configuration of the plant

4.1 In situ operation (Direct connection)

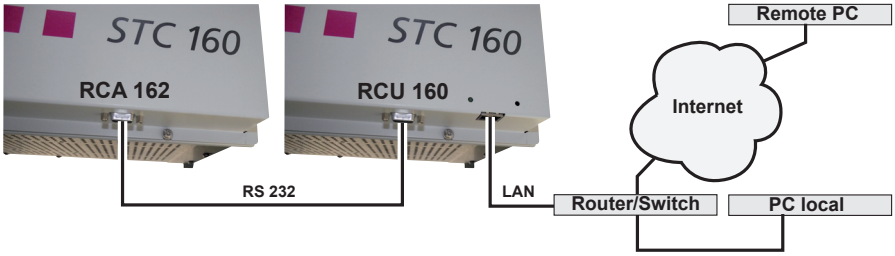
Via direct connection it is possible to control the head-end station more comfortable than via the control unit. In addition the configuration can be stored on the PC.



- Connect the RS-232 interface (1) on the control unit with the serial interface (e.g. COM 1) on the PC using a commercially available RS-232 cable (2). For PCs without a serial interface, we recommend the DeLOCK "USB 2.0 to Serial Adapter" (Product No. 61460). (3).

4.2 Remote control via a management system

The basic configuration depends on the desired type of connection (Internet or local network).
It must be done during the installation process of the management system and is therefore described in the assembly instruction of the management system.



5 CONNECTION TO THE PLANT

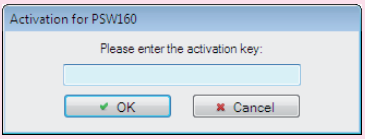
5.1 REQUIREMENTS/HINTS

The basic configuration of the used management system must already be done during its assembly.

—> Therefore observe the assembly instruction of the management unit.

- Start the PSW 160 software.

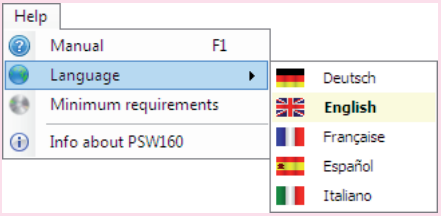
—> A key code is required for the activation of the programme. This can be obtained from your regional authorised distributor.



- Click the "OK" button when entered the 25 key code.

—> The hyphen between the column of figures will be added from the software.

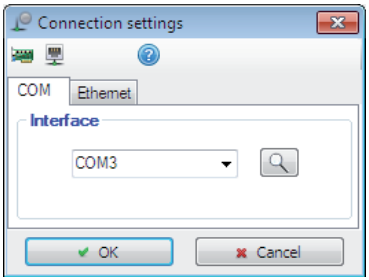
—> Via menu "Help > Language" select the language of the menus.



5.2 CONNECTION VIA COM PORT (IN SITU CONNECTION)

- Click the button.

—> The "Connection settings" window is activated.



- Select tap "COM".

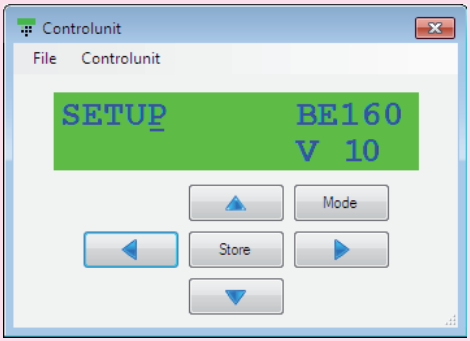
—> The COM interfaces available in your PC system are displayed.
—> Using button you can search for used COM ports.

- Select the corresponding COM interface.

—> Via the Windows system control you can check, which COM port is used for an USB RS-232 adapter.

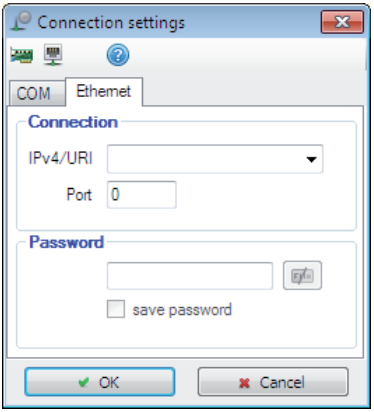
- Click the OK button.

—> The virtual control unit is displayed as soon as the connection is established.



5.3 CONNECTION VIA ETHERNET

- Click the button.
- Select tap "Ethernet" and enter:
  - At connection via a **local network** the IP address and the port of the management unit (e.g. "IPv4/URI **192.168.0.120**" and "Port **60002**").
  - At connection via the Internet the "external" (public) IP address of the router or its "dynamic DNS account" and the port of the router for which port forwarding to the management unit is configured (e.g. "IPv4/URI **212.20.xxx.x**" and "Port **100**").



—> For remote control via Internet the router of the management unit must be connected to the Internet. In addition its "public" IP address (resp. its dynamic DNS account) with which it is connected to the Internet must be known.

—> Port forwarding must be set for the port you set during LAN configuration at the router of the management unit.

—> Observe the operating instructions of the router.

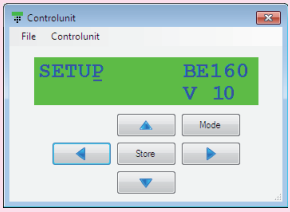
- Enter the password (case-sensitive).

—> The default password is **RemoteCU**.

- Click the OK button.

—> The virtual control unit is displayed as soon as the connection is established.

—> If connection problems arise you can call up the network settings of the PC via button .



6 CONTROLLING THE PLANT

—> **All settings (with exception of the "direct control via the virtual control unit") first will be done in the PSW 160 software (random access memory – RAM of the PC) and must be sent finally to the plant ("send data"))!**

6.1 MAIN WINDOW – BUTTONS

The following functions can be started directly via buttons:

- Exits the programme
- Opens a stored configuration (plant) – page 21
- Saves the current configuration – page 21
- Saves the current configuration as … (with new name) – page 22
- Imports the configuration data from the connected plant – page 25
- Transmits the current configuration to the plant – page 26
- Calls up the virtual control unit – page 27
- Establishes a connection to the plant – page 28
- Disconnects the connection – page 28
- Ethernet setting of a connected RCU 160 – page 29
- To edit the NIT of the current configuration – page 29
- Copies (imports) a stored NIT – page 43
- Searches for updates (page 46).
- Calls up this operating instruction.

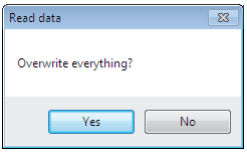
The following functions are available if a module is selected:

- Imports a stored module configuration – page 20
- Stores a module configuration – page 20
- Deletes a module from the plant configuration – page 20

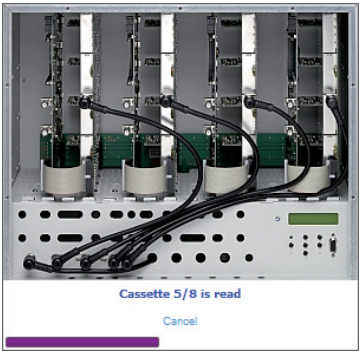
6.2 READ DATA (CONFIGURATION)

Via this function the current configuration of the plant can be imported into the programme.

- Click the button.

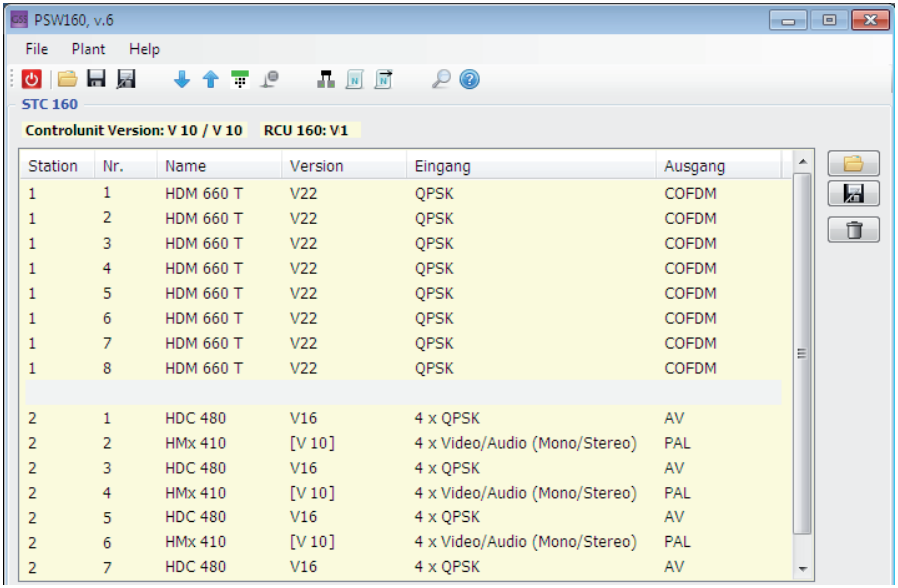


- Click the Yes button.



—> The programme memory will be overwritten by the stations data.

—> After the import is finished the plant will be displayed e.g. ...



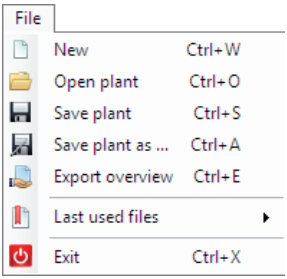
Station	Nr.	Name	Version	Eingang	Ausgang
1	1	HDM 660 T	V22	QPSK	COFDM
1	2	HDM 660 T	V22	QPSK	COFDM
1	3	HDM 660 T	V22	QPSK	COFDM
1	4	HDM 660 T	V22	QPSK	COFDM
1	5	HDM 660 T	V22	QPSK	COFDM
1	6	HDM 660 T	V22	QPSK	COFDM
1	7	HDM 660 T	V22	QPSK	COFDM
1	8	HDM 660 T	V22	QPSK	COFDM
2	1	HDC 480	V16	4 x QPSK	AV
2	2	HMx 410	[V 10]	4 x Video/Audio (Mono/Stereo)	PAL
2	3	HDC 480	V16	4 x QPSK	AV
2	4	HMx 410	[V 10]	4 x Video/Audio (Mono/Stereo)	PAL
2	5	HDC 480	V16	4 x QPSK	AV
2	6	HMx 410	[V 10]	4 x Video/Audio (Mono/Stereo)	PAL
2	7	HDC 480	V16	4 x QPSK	AV

—> In column "Version" the software versions of the modules are displayed. Version numbers in square brackets e.g. [V 10] indicates, that the software of the module is integrated in the software of the control unit.

6.3 Menu File – Administrate the configuration data

Via menu "File" the data of the configuration held in the main memory can be administrated.

All changes/configurations, done in the PSW 160, first are held in the temporary random access memory (RAM) – with exception of the "direct control via the virtual control unit". Save the configuration data (recommended) so that they can not be lost (page 21).

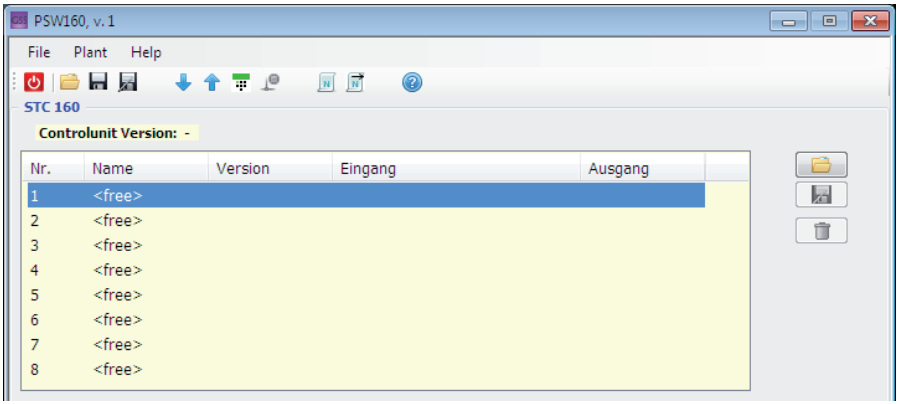


Create a new plant

In this menu you can start a new "empty" configuration and arrange a plant from previously stored module files.

—> Not saved data are deleted!

- Select menu item **File > New plant**.



- Activate a module slot (e.g. No. 1 by clicking the line).

—> Buttons , and (right side) will be activated.

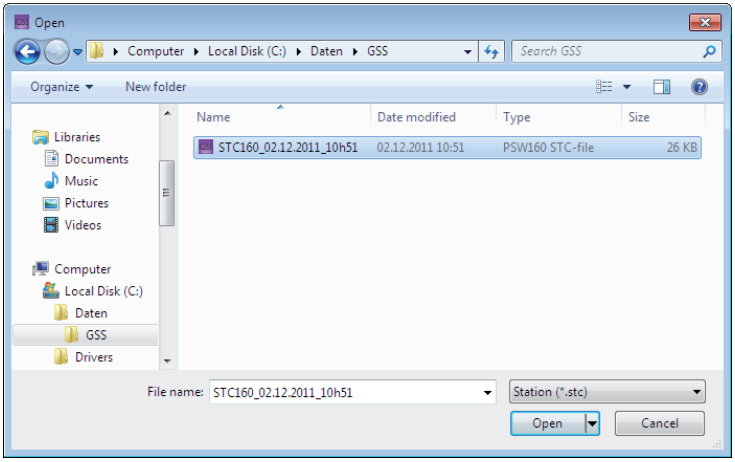
- Import a previously stored module using button .
- Store a module (backup) using button .
- Delete a module from the configuration using button .

OPEN PLANT

In this menu the saved data of a plant can be loaded into the PSW 160.

- Select menu item **File >** **Open plant**.

—> This function can also be selected by button .



- Select a plant and confirm with button Open.

—> The saved data are loaded into the programme (RAM).

SAVE PLANT

In this menu the current configuration can be saved (backup).

- Select menu item **File >** **Save plant**.

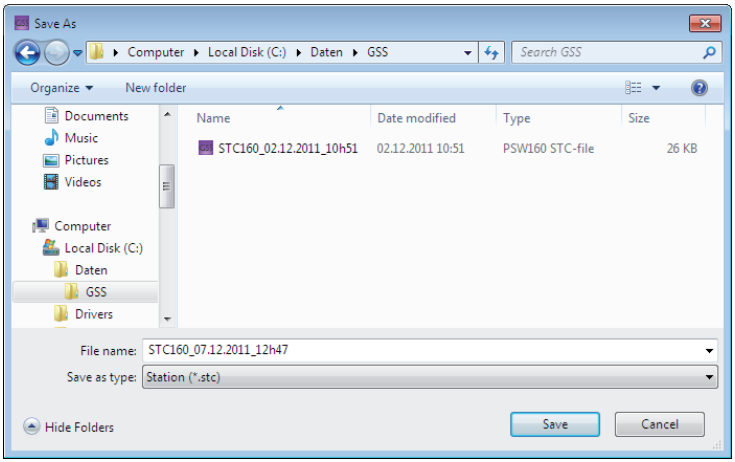
—> This function can also be selected by button .
—> The configuration data loaded in the RAM will be saved.
—> At new prepared or read data the menu "Save plant as…" (page 22) appears if a filename is not yet assigned.

SAVE PLANT AS...

In this menu the current configuration can be saved with a different file name (variant).

- Select menu item **File >** **Save plant as...** .

—> This function can also be selected by button .
—> The menu "Save as" appears.



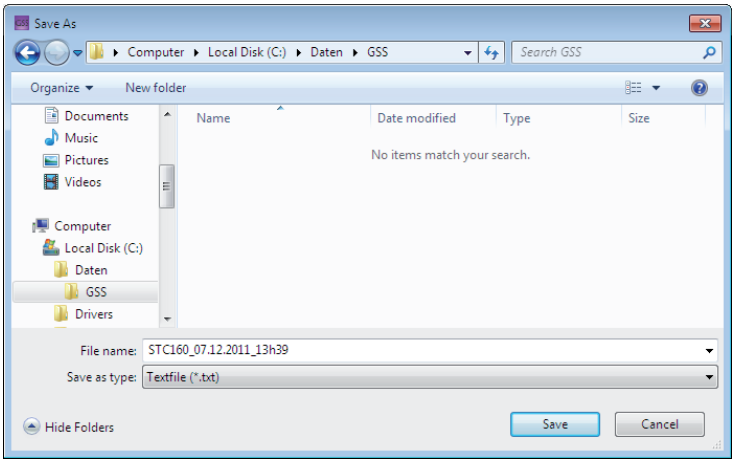
- If necessary select a different folder, enter a file name and save the file with button Save .

EXPORT OVERVIEW FILE

In this menu the current configuration can be exported as a text file.

- Select menu item **File >** **Export overview**.

—> This function can also be selected by button .
—> The menu "Save as" appears.

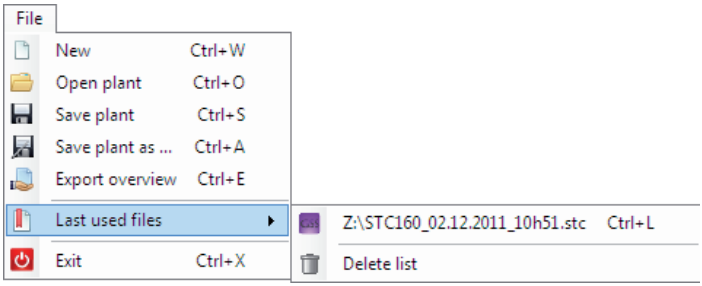


- Enter a file name and the path of the memory location in the appearing "Save as" window and save the file using button Save .

LAST USED FILES

In this menu you get quick access to the last opened configuration files.

- Select menu item **File > Last used files**.



- Select the desired file.

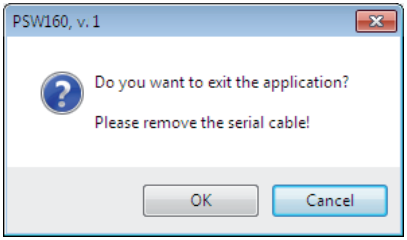
—> The configuration will be opened.
—> Not saved data will be lost!
—> Via menu item "Delete list" the list of the last used files can be deleted.

Exit

Via this menu you can exit the programme.

—> Not saved data will be lost!

- Select menu item **File >** **Exit**.

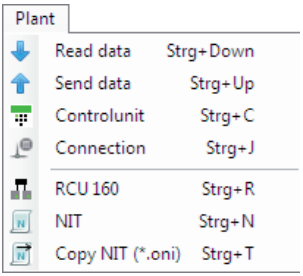


—> In order to save the configuration, select Cancel and save the plant via menu File > Save plant.

- Exit the programme using button OK.

6.4 MENU PLANT

The communication with the plant as well as the NIT (Network Information Table) settings are done via menu "Plant".



All settings (with exception of the "direct control via the virtual control unit") first will be done in the PSW 160 software (RAM of the PC). In order to get it "active" at the plant the configuration data must be sent finally to the plant ("Send data")! .

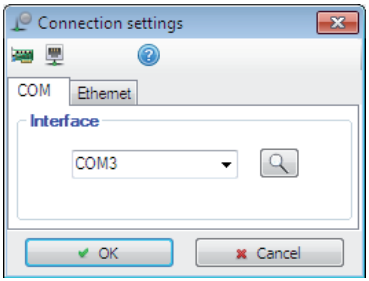
READ DATA

In this menu you can read the configuration data out of the plant into the programme (RAM).

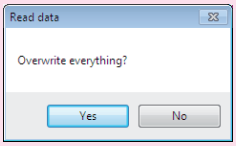
- Select menu item **Plant >** **Read data**.

—> This function can also be selected by button .

—> If there is no connection to the plant, the menu "Connection settings" appears. For a detailed description of this menu see chapter 5 "Connection to the plant" (page 15).



- Click the OK button.



- Click the Yes button.

—> The selected data will be imported.

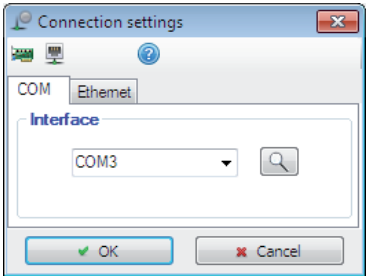
SEND DATA

In this menu you can send the configuration data out of the PC into the plant.

- Select menu item **Plant >** **Send data**.

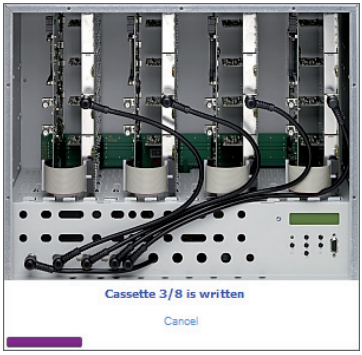
—> This function can also be selected by button .

—> If there is no connection to the plant, the menu "Connection settings" appears. For a detailed description of this menu see chapter 5 "Connection to the plant" (page 15).



- Click the OK button.

—> The selected data will be sent.



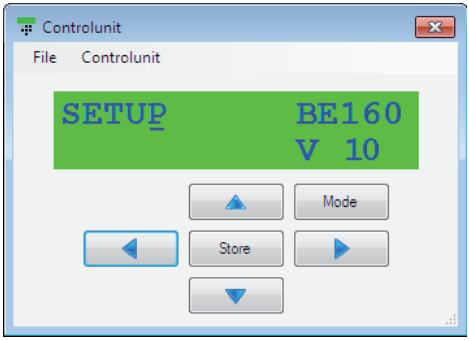
CONTROL UNIT

Via this item menu you get a "virtual" control unit in order to operate the plant via the PC.

- Select menu item **Plant > Control unit**.

—> This function can also be selected by button .

—> If there is no connection to the plant, the menu "Connection settings" appears. For a detailed description of this menu see chapter 5 "Connection to the plant" (page 15).



Via this menu the control unit of the plant can be remote controlled. If several stations are connected you can select a control unit via menu "Controlunit". The keys of the figure are designed as buttons (mouse control).

In addition operation via the number keypad of the PC is possible.

—> The assignment of the keys is shown in the figure.

—> Close the menu with button .

Activate connection / Deactivate connection

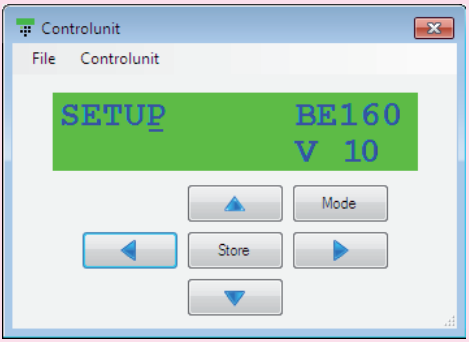
With this menu item you can activate/deactivate the connection to the plant (toggle function).

- Select menu item **Plant > Connection / Deactivate connection**.

—> This function can also be selected by button /.

—> If there is no connection to the plant (menu " Connection"), the menu "Connection settings" appears. For a detailed description of this menu see chapter 5 "Connection to the plant" (page 15).

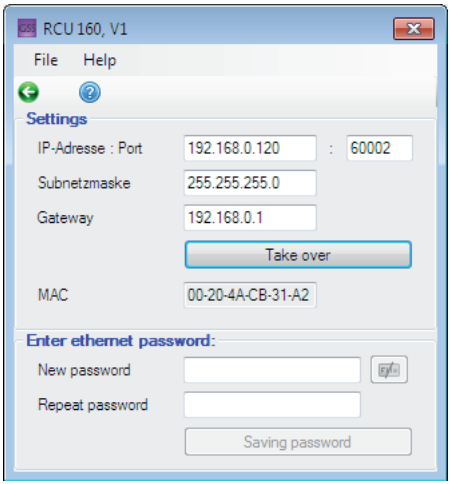
—> After connecting successfully the virtual control unit is displayed:



—> If there is already a connection to the plant (menu " Deactivate connection"), the connection will be deactivated.

ETHERNET ACCESS DATA

In this menu you set the Ethernet access data if a management system is used.



- If necessary change the IP settings of the management system.
- Transmit the settings to the management system using button Take over .

—> In the head line the software version of the RCU 160 is shown (e.g. RCU 160, **V1**).
—> In field "MAC" the MAC address of the management system is shown.

ETHERNET PASSWORD

You can change the password in order to prevent the management unit from unauthorised access.

—> The default password is **RemoteCU**.

- If necessary enter a new password into the input field "New password" - and for confirmation - into input field "Repeat password".
- Click to button Saving password in order to store it.

—> Using button you can set whether the password is displayed "visible" or in "••••••" format.

NIT (Network Information Table)

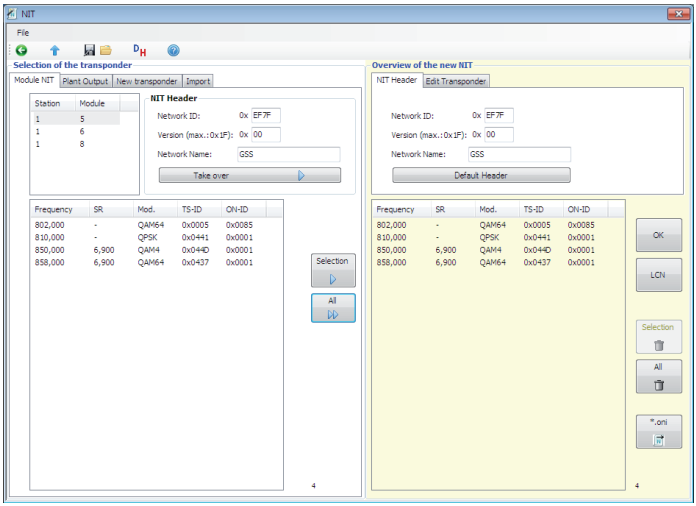
Via this menu the NIT can be modified.

—> For the majority of all plants it is sufficient to create a NIT via the NIT menu which is included in the modules. **Using menu item "NIT" creates a new NIT "manually".** It is e.g. possible to remove transponders from the NIT. It is also possible to add transponders from "older" modules not implied in the NIT automatically as well as to enter LCNs (Logical Channel Numbers).

—> **Make only modifications if you are aware of its consequences.**

—> The new (modified) NIT must finally be sent to the plant .

- Select menu item **Plant >** **NIT**.



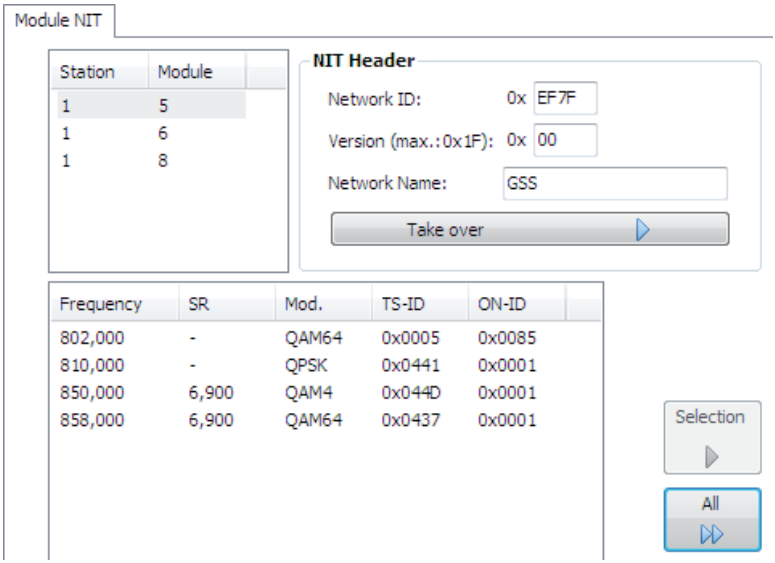
The "NIT" menu consists of two sections:

– "**Selection of the transponder**"
  – herein the contents of the NIT will be selected.

– "**Overview of the new NIT**"
  – herein the contents will be collected,
  – modifications can be done,
  – LCNs can be entered and
  – the NIT can be exported in form of an ".oni" file (LCN included).

Section "Selection of the transponder" > Tap Modul NIT:

—> All cassettes able to transmit a NIT will be shown.



The **NIT of a selected cassette** will be shown below (e.g. Station 1/Modul 5).

- Click to button in order to transfer all listed transponders to section "Overview of the new NIT", or
- select individual transponders in order to transfer only the selection using button to section "Overview of the new NIT".

—> Transponders not transferred to section "Overview of the new NIT" will not be part of the new NIT and will possibly not found during station search of a receiver!

Tap "Modul NIT" > NIT Header:

Herein the "Network ID", "Version" and "Network name" can be changed.

—> In "normal case" no changes must be done.

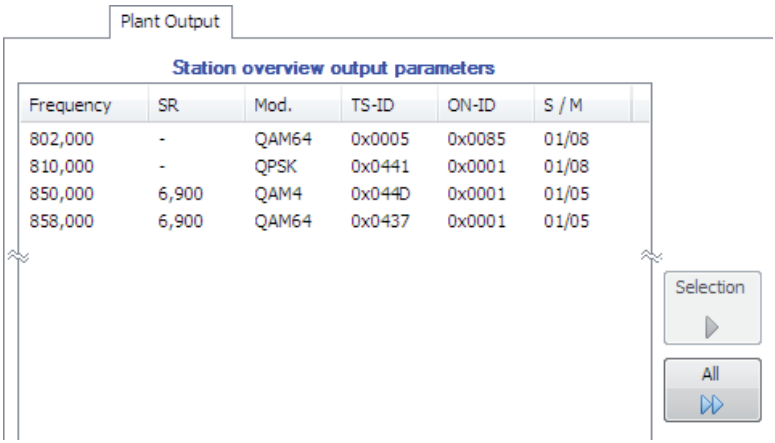
- Enter the values if user-specific special functions are needed.

- Click to button

, to import the changed values to section "Overview of the new NIT".

SECTION "SELECTION OF THE TRANSPONDER" > TAP PLANT OUTPUT:

—> The **transponder data (not the NIT!)** of all installed modules transmitting a NIT will be shown.


Plant Output
Station overview output parameters
Frequency SR Mod. TS-ID ON-ID S / M
802,000 - QAM64 0x0005 0x0085 01/08
810,000 - QPSK 0x0441 0x0001 01/08
850,000 6,900 QAM4 0x044D 0x0001 01/05
858,000 6,900 QAM64 0x0437 0x0001 01/05
Selection
All

- Click to button

in order to transfer all listed transponders to section "Overview of the new NIT", or
- select individual transponders in order to transfer only the selection using button

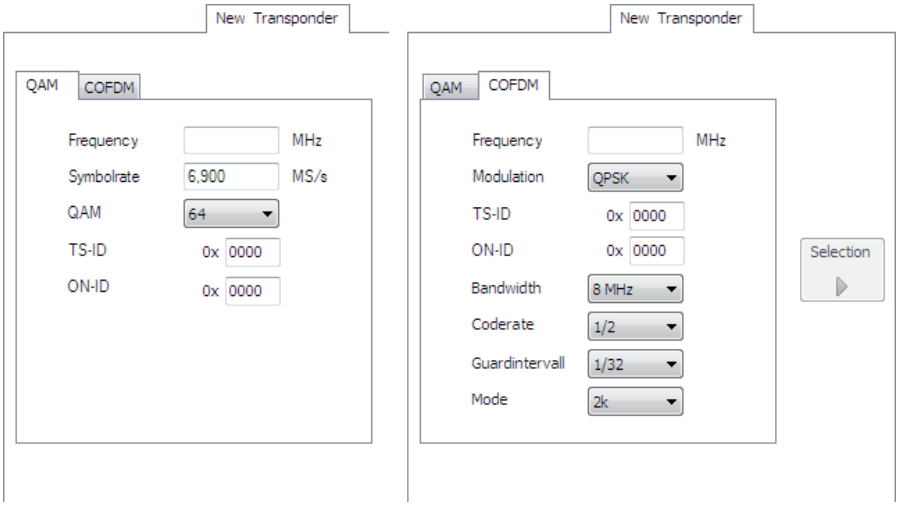
to section "Overview of the new NIT".

—> Transponders not transferred to section "Overview of the new NIT" will not be part of the new NIT and will possibly not found during station search of a receiver!

Section "Selection of the transponder" > Tap New Transponder:

—> Transponders of older cassettes which are not transmitting a NIT and transponders of external components can be added to the NIT manually. As it is not possible to transmit the "new" NIT to external components, the NIT must be switched off at all of this components in order to avoid two different NITs.

- Dependent on the module click on the tap QAM or COFDM and enter the corresponding transponder data.



- Click to button

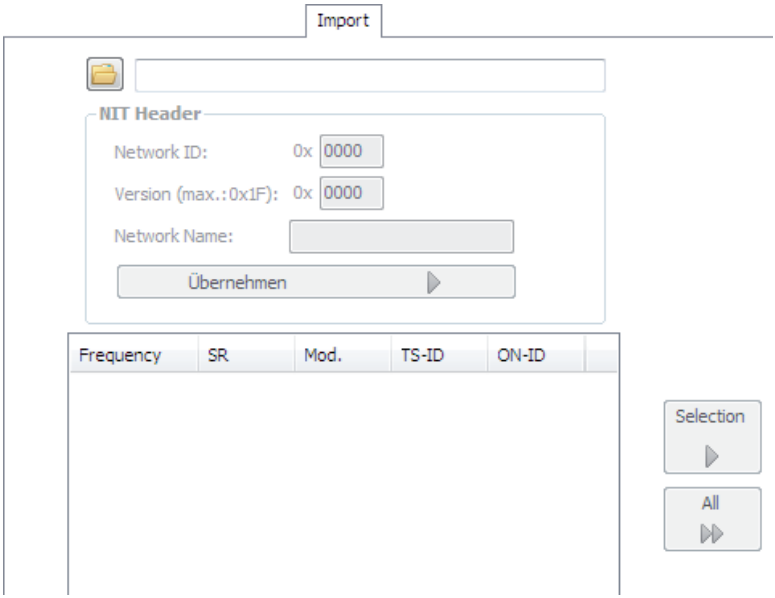
in order to transfer the transponder to section "Overview of the new NIT".

—> The transponder data can be complemented in section "Overview of the new NIT".
—> For adding several transponders repeat this procedure accordingly.

Section "Selection of the transponder" > Tap Import:

Herein you can import a NIT which was exported before.

—> This function is useful if a plant e.g consists of several stations. In order to create a NIT for the complete plant, first create the NIT of each station (via the NIT function of the module). Export the NIT of the first station (page 42) and import it into the NIT of the second station and so on. The last in this order configured NIT contains the NIT of the plant (all stations). Finally export this NIT and import it into all other stations. Now all stations contain identical NITs.



- Click to button in order to import a saved (exported) NIT.

—> The imported transponders will be listed in the lower window.

- Click to button

in order to transfer all listed transponders to section "Overview of the new NIT", or
- select individual transponders in order to transfer only the selection using button

to section "Overview of the new NIT".

—> Transponders not transferred to section "Overview of the new NIT" will not be part of the new NIT and will possibly not found during station search of a receiver!

Tap "Import" > NIT Header:

Herein the "Network ID", "Version" and "Network name" can be changed.

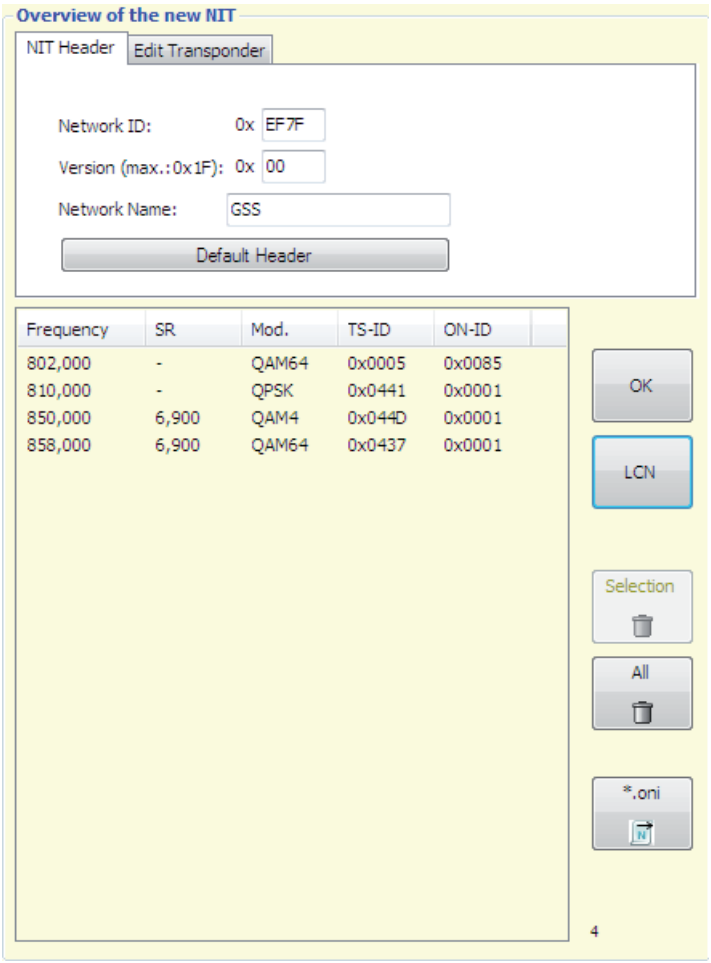
—> In "normal case" no changes must be done.

- Enter the values if user-specific special functions are needed.
- Click to button

, to import the changed values to section "Overview of the new NIT".

—> Proceed with section "Overview of the new NIT".

SECTION "OVERVIEW OF THE NEW NIT":

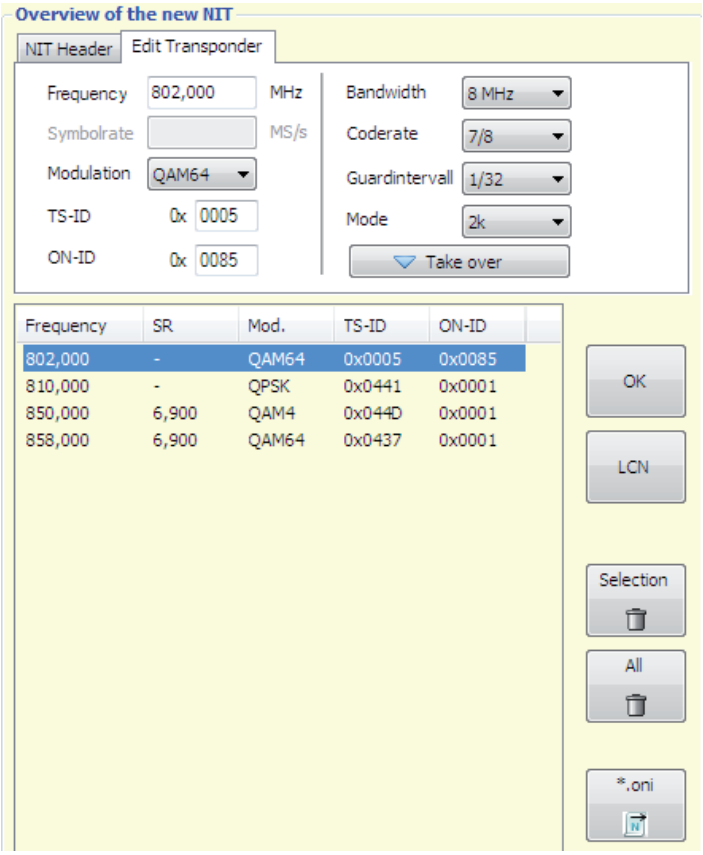


All transponders, which were selected in section "Selection of the transponder" are listed in the lower window.

—> Herein e.g. you can edit transponders, which were added in section "Selection of the transponder" > "New Transponder".

- Select a corresponding transponder of the list.

—> In the upper section tap "Edit Transponder" will become active.



- If necessary edit the data of the corresponding transponder.
- Apply the changes to your selection using button Take over.

—> Via button LCN the LCN (Logical Channel Numbers) menu will be opened, to preset programme numbers for services (see "Logical Channel Numbers - LCN" (page 38).

—> Via button Selection individual transponders can be removed from the NIT.

—> Via button All all transponders can be removed from the NIT.

—> By clicking button *.oni the modified NIT can be stored in form of a ".oni" file, LCN settings included.
Via menu **Plant > Copy NIT (*.oni)** (page 43) the stored NIT can be imported into another station.

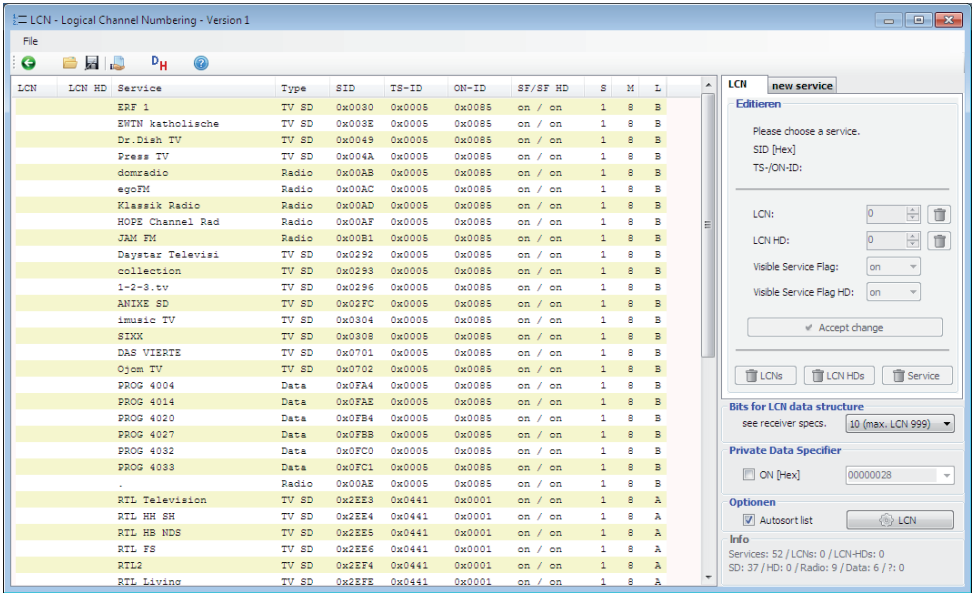
—> If you would like to skip the LCN settings proceed with "End the NIT processing" page 42.

Logical Channel Number - LCN

LCN is a static, virtual assignment of programme numbers for services. Suitable receivers use these LCN information in order to sort the channels after a station search. The LCN information is part of the Network Information Table (NIT).

—> At present LCN version 1 is supported.

- Click the LCN button.


LCN - Logical Channel Numbering - Version 1
File
LCN
LCN HD
Service
Type
SID
TS-ID
ON-ID
SF/SF HD
S
M
L
ERF 1 TV SD 0x0030 0x0005 0x0085 on / on 1 8 B
EWTN katholische TV SD 0x003E 0x0005 0x0085 on / on 1 8 B
Dr.Dish TV TV SD 0x0049 0x0005 0x0085 on / on 1 8 B
Press TV TV SD 0x004A 0x0005 0x0085 on / on 1 8 B
domradio Radio 0x00AB 0x0005 0x0085 on / on 1 8 B
egoFM Radio 0x00AC 0x0005 0x0085 on / on 1 8 B
Klassik Radio Radio 0x00AD 0x0005 0x0085 on / on 1 8 B
HOPE Channel Rad Radio 0x00AF 0x0005 0x0085 on / on 1 8 B
JAM FM Radio 0x00B1 0x0005 0x0085 on / on 1 8 B
Daystar Televisi TV SD 0x0292 0x0005 0x0085 on / on 1 8 B
collection TV SD 0x0293 0x0005 0x0085 on / on 1 8 B
1-2-3.tv TV SD 0x0296 0x0005 0x0085 on / on 1 8 B
ANIXE SD TV SD 0x02FC 0x0005 0x0085 on / on 1 8 B
imusic TV TV SD 0x0304 0x0005 0x0085 on / on 1 8 B
SIXX TV SD 0x0308 0x0005 0x0085 on / on 1 8 B
DAS VIERTE TV SD 0x0701 0x0005 0x0085 on / on 1 8 B
Ojom TV TV SD 0x0702 0x0005 0x0085 on / on 1 8 B
PROG 4004 Data 0x0FA4 0x0005 0x0085 on / on 1 8 B
PROG 4014 Data 0x0FAE 0x0005 0x0085 on / on 1 8 B
PROG 4020 Data 0x0FB4 0x0005 0x0085 on / on 1 8 B
PROG 4027 Data 0x0FBB 0x0005 0x0085 on / on 1 8 B
PROG 4032 Data 0x0FC0 0x0005 0x0085 on / on 1 8 B
PROG 4033 Data 0x0FC1 0x0005 0x0085 on / on 1 8 B
. Radio 0x00AE 0x0005 0x0085 on / on 1 8 B
RTL Television TV SD 0x2EE3 0x0441 0x0001 on / on 1 8 A
RTL HH SH TV SD 0x2EE4 0x0441 0x0001 on / on 1 8 A
RTL HB NDS TV SD 0x2EE5 0x0441 0x0001 on / on 1 8 A
RTL FS TV SD 0x2EE6 0x0441 0x0001 on / on 1 8 A
RTL2 TV SD 0x2EF4 0x0441 0x0001 on / on 1 8 A
RTL Living TV SD 0x2EFE 0x0441 0x0001 on / on 1 8 A
LCN
new service
Editieren
Please choose a service.
SID [Hex]
TS-/ON-ID:
LCN:
LCN HD:
Visible Service Flag:
Visible Service Flag HD:
Accept change
LCNs
LCN HDs
Service
Bits for LCN data structure
see receiver specs.
10 (max. LCN 999)
Private Data Specifier
ON [Hex]
00000028
Optionen
Autosort list
LCN
Info
Services: 52 / LCNs: 0 / LCN-HDs: 0
SD: 37 / HD: 0 / Radio: 9 / Data: 6 / ?: 0

—> All services are shown in the table.

—> For "**LCN Data Structure**" and "**Private Data Specifier**" IEC 62216-1 recommends the values "10 Bit" and "00000028". As in some regions (e.g. United Kingdom, Nordig, France etc.) different regulations exist, observe the country specific guidelines, if required.

Automatic LCN assignment:

- Click the LCN button.

—> The LCNs will be assigned in the order of the sorting.

Automatic sorting:

—> By default the table is sorted by columns M (Module) and L (Line) in ascending order.

Clicking a column header will change the sorting according to the column criteria.

Manual sorting:
Via "Drag and Drop" the services can be sorted manually.
- Click and hold the mouse button on a service.
- Pull the service by keeping the mouse button depressed to the desired position in the table.

Manual LCN assignment:
- Click on a service in the table.

—> The service is shown in section "LCN" on the right side.

- Enter a LCN or (at HD channels) a LCN HD in the corresponding input field and click the Accept change button.

—> Due to the differentiation of LCN and LCN HD it is possible to assign the same channel number for a channel transmitted in "SD" and "HD" quality. Suited "HD" receivers will prefer the services in "HD" quality, "SD" receivers will use the service in "SD" quality.
—> The assigned LCN is shown in the table on the left side.
—> If the check box Autosort list is activated, as soon as a LCN is entered the table will be sorted by column LCN in ascending order.

Visible Service Flag:
This setting must be set to "on" if the service should appear in the Channel table of a receiver. Setting "off" - for example - is used for channels used for software update only.

Delete all LCNs / LCN-HD assignments:
- Click at the corresponding button LCNs or LCN HDs .

—> All assigned LCNs will be deleted in the table.

Delete individual LCNs / LCN-HD assignments:
- Click to a service in the table.

—> The service is shown in section "LCN" on the right side.

- Click to the button next to the LCN.

—> The assigned LCN will be deleted in the table.

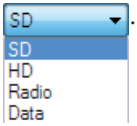
Delete individual services:
- Click to a service in the table.

—> The service is shown in section "LCN" on the right side.

- Click to the Service button.

—> The service will be deleted in the table.

Add individual services:
In section "LCN" individual services not included in the table can be added via tab "new service".
- Enter the corresponding TS- and ON-ID as well as the SID and the desired LCN (HD). Select the kind of the services SD.
- Enter a service name (optional).
- Click the Accept change button



—> The added service is shown in the table on the left side.
—> The service name is only displayed in the table and is although only stored in a LCN backup ( ) and an exported text file ( ) - but not in a module!

Save a LCN list as *.gsl file (backup):

- Select menu item **File > save LCN** or click the button.
- Enter file name and location.
- Click the Save button.

Open a saved LCN list (*.gsl file):

- Select menu item **File > open LCN** or click the button.
- Select the corresponding file.
- Click the Open button.

—> The current LCN list will be overwritten.
—> Herein assigned service names may be helpful (page 40).

Export a Service (LCN) list as a text file (*.txt):

- Select menu item **File > export service list** or click the button.
- Enter file name and location.
- Click the Save button.

Toggle the ID indication (decimal <–> hexadecimal):

- Select menu item **File > Decimal <–> Hex** or click the button.

—> The indication of all IDs toggles between hexadecimal and decimal.

Close the LCN menu:

- Close the menu via the menu item **File > Back** or via the / buttons.

—> The modifications will be done – as all settings via PSW 160 first in the programme (RAM). The new (modified) NIT must finally be sent to the plant .
—> **Creating the NIT directly at the control unit will delete all LCN assignments!**

SAVE THE NIT IN FORM OF A "*.ONI FILE" (LCN INCLUDED):

With a click on the *.oni button the NIT can be saved in form of a ".oni" file - **LCN settings included**.

- Enter a file name and select the target directory.
- Click the Save button.

—> Via the menu **plant > Copy NIT (*.oni)** (page 43) of the PSW 160 the saved NIT can be imported into another plant.

Complete the NIT processing

- **Complete the processing of the NIT using button** OK .

—> The NIT is transmitted from the section "Overview of the new NIT" to the modules.
—> The section "Overview of the new NIT" becomes "empty".
—> To check the new NIT select a module in section "Selection of the transponder" –> its NIT is shown.
—> The modifications will be done – as all settings via PSW 160 – first in the programme (RAM). The new (modified) NIT must finally be sent to the plant .

Transfer the NIT to the station:

- Select menu item **File > Send data** or click to button .

—> The NIT will be transferred to all cassettes, whose function NIT must be set to "on" if necessary.

Export NIT as *.nit file (without LCN):

—> This function exports the data shown in section "Selection of the transponder". If "**Module NIT**" is selected, the **NIT of the selected module** will be exported. If "**Plant Output**"is selected, the **transponder data of the plant** (not the NIT) will be exported. **LCN setting will NOT be exported.** Transponder data of external components added via tap "New Transponder", are only displayed in tap "Module NIT".

- Select the data to be exported (**"Module NIT"** resp. **"Plant Output").**
- Select menu item **File > Export "Module NIT"** resp. **"Plant Output"** or click to button .
- Enter a file name and select the target directory.
- Click the Save button.

Inport NIT (*.nit file without LCN):

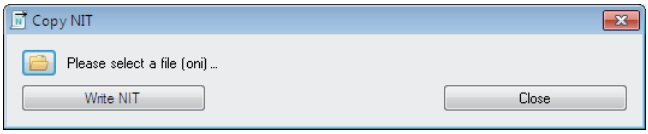
—> Via this function data saved via "Export NIT" can be imported.

- Select menu item **File >** **Import NIT** or click to button .
- Select the corresponding file.
- Click the Open button.

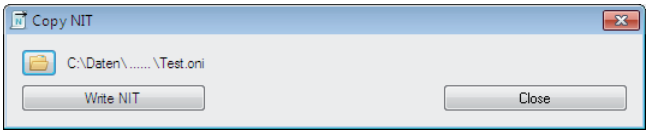
Copy NIT (directly into the modules of the station - LCN included)

Via this menu a NIT saved in form of an ".oni" file (page 42) can be imported directly into the modules of the station.

- Select menu item **Plant >** **Copy NIT**.



- Open the selection window using button .
- Select the corresponding ".oni" file from the source directory and click on button Open .



- Transfer the NIT directly to the modules of the station using button Write NIT .

—> The NIT will be transferred to all cassettes, whose function NIT must be set to "on" if necessary.

Note on the creation of a NIT for several stations – LCN included:

=> **Station 1 / Management system 1:**
Create a NIT (Page 30).
Assign the LCNs and export them in form of a "*.gsl file" (Page 41).
Save the NIT with 'OK' and export the transponders in form of a "*.nit file" (Page 42).

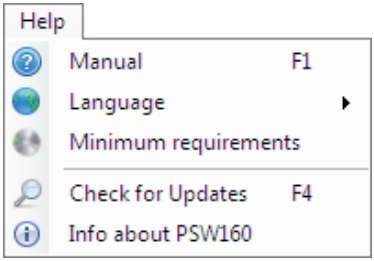
=> **Station 2 / Management system 2:**
Create a NIT and import the transponders from station 1/management system 1 (*.nit) (Page 43).
Assign the LCNs and import the LCNs from station 1/management system 1 ("*.gsl", Page 41).
Export this NIT in form of a "*.oni file", in order to load them in station 1/management system 1 (Page 41).

=> **Station 1 / Management system 1:**
Copy (load) the NIT which was exported from station 2/management system 2 into station 1/management system 1 via menu **Plant > Copy NIT** (Page 43).

=> **Now both stations/management systems contain a identical NIT.**

6.5 Menu Help

In menu "Help" you can
- call up the operating instruction,
- change the menu language,
- call up the minimum requirements of the modules,
- check for updates
- call up the version number of the installed software.



Operating instruction

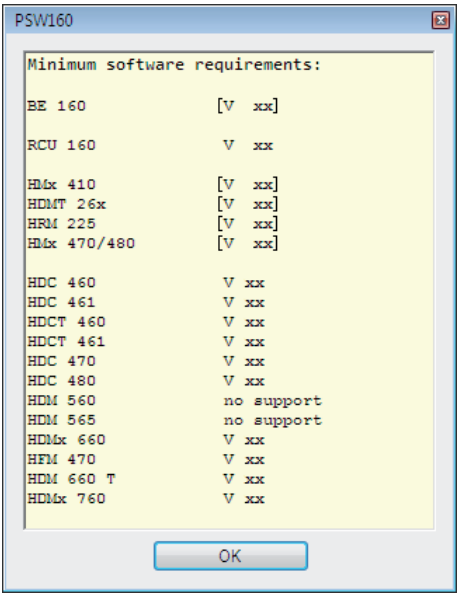
Via menu **Help > Manual** you can call up this operating instruction.

Language

Herein you can select one of the available menu languages.

MINIMUM REQUIREMENTS

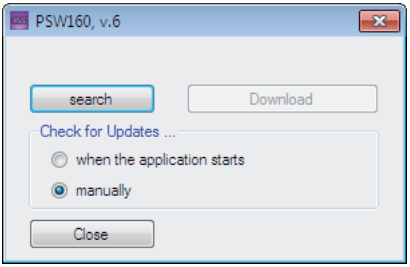
Herein the software versions of the modules which are minimum required to work with the PSW 160 are listed.



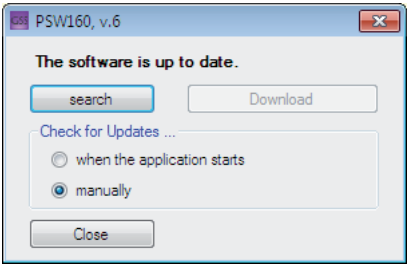
—> Versions numbers in squared brackets e.g. [V 10] indicate that the software of the module is included in the software of the control unit.

SEARCHING FOR UPDATES.

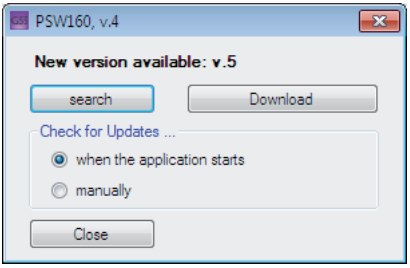
Herein you can check whether an update of the PSW 160 software is available.



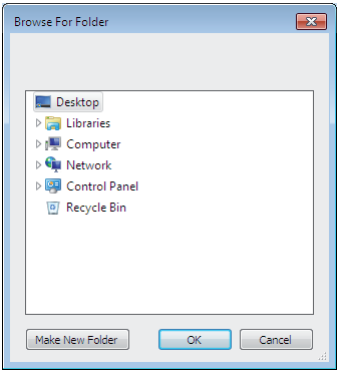
- Select whether the search shall start "manuelly" or "when the application starts".
- Start the manual search using button search.



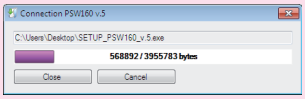
- Close the window if no updated is available.



- If available downloud the new version with button Download:
- Select a target directory.



–> The progress of the download is displayed.



- To install the new version close the PSW 160 and start the new setup file.

Info about ...

The software version of the current installed PSW 160 is displayed.

7 Final Hints

As often repeated:
All modifications/configurations be done with the PSW 160 first are only be hold in the RAM (random access memory) of the PC. To get "active" the configuration data must be sent to the plant.

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